



Bambauer AgLand Appraisal
Appraisals · Consultations · Market Studies



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SENT VIA ELECTRONIC MAIL and REGULAR MAIL

May 28, 2013

Tim Crose
Assistant Director
Pacific County Department of Community Development
1216 Robert Bush Drive
P.O. Box 68
South Bend, Washington 98586

Re: Agronomic Rate Information

Dear Tim:

As you requested, enclosed is background and historical agronomic rate information for the Land Application of crab, shrimp and prawn shells on the Kindred Island property. Enclosed are historical application rates, by year, on a field by field basis. In addition I have assemble a number of University crop studies and fertilization studies for a wide variety of crops which are being considered to be grown on the property which backup the annual crop fertilization requirements. These various studies will be provided via email as well as on a CD for your review.

The agronomic rate calculations for the Nelson Stock Ranch Land Application of crab shells and shrimp shells is determined by analytical results, soil types, climatic conditions, precipitation, site and crop nitrogen requirements, and crop yields. In most cases, nitrogen controls the application rate. By calculating the agronomic rate, growers can match the plant available nitrogen N by the land application to crop N needs. Based on the 2012 soil tests, the soils throughout the Kindred Island property are severely nutrient deprived.

For the 2011 and 2012 land application crop years, the "Pacific County Seafood By-Product Utilization Study, prepared by Gordon Sargent, dated January 28, 2004 was utilized as a guideline for the agronomic rate calculations.

Historical Product Delivery

September 16, 2011 was the first date of the monitored application of crab shells and shrimp sells. During the 2011 and 2012 crop years, there were cattle grazing on the property in the application area. Pasture grass was the crop utilized as the baseline agronomic rate, as reported in the Pacific County study, determined at $35.90 \pm$ tons of shells applied per acre.

2011	723,356	35.90 tons per acre	=	10.07 acres required for application
2012	1,295,372	35.90 tons per acre	=	18.04 acres required for application
2013	1,659,962 (January 1, 2013 to April 19, 2013)			

This rate reported in the Pacific County Study does not take into account any intensive cropping pattern, crop yields, baseline soil conditions, etc. Therefore, the actual agronomic rate on the Kindred Island Property could be considerably different, based on the actual bi-annual soil tests, as well as cropping patterns on the property.

The soils on Kindred Island consist primarily of sandy to sandy loam soils, which are deprived of organic matter and nutrients.

The chart located on the following pages are summaries of the actual application rates, by field for the 2011, 2012 and beginning of the 2013 years, up to county revocation of the Land Application Permit with an effective date of April 19, 2013.

ECO FARMS

Field Utilization - 2011 Crop Year

Field Number	Net Acres	Washington Crab		Westport Seafoods	Ocean Gold	Nelson Crab	Totals Pounds	Total Pounds Per Acre	Tons Per Acre
		Crab Shells	Shrimp						
K-1	2.91	46,962	282,780		18,072		347,814	119,524	59.76
K-2	2.84	217,679		144,800			362,479	127,633	63.82
K-3	3.36						-	-	-
K-4	1.59				12,000		12,000	7,547	3.77
K-5	1.63						-	-	-
K-6	1.76						-	-	-
K-7	3.32						-	-	-
K-8	1.49						-	-	-
K-9	3.15						-	-	-
K-10	1.81						-	-	-
K-11	2.55						-	-	-
K-12	2.09						-	-	-
K-13	1.75						-	-	-
K-14	1.32						-	-	-
K-15	1.62						-	-	-
K-16	4.53						-	-	-
K-17	1.3						-	-	-
K-18	2.08						-	-	-
K-19	1.87						-	-	-
K-20	1.84						-	-	-
K-21	2.11						-	-	-
K-22	2.31						-	-	-
K-23	1.56						-	-	-
K-24	2.08						-	-	-
K-25	1.92						-	-	-
Ranch Totals	54.79	264,641	282,780	144,800	30,072	-	722,293	98,405	49.20
Used Acres	7.34								

The chart below is a breakdown of the field application for the 2012 year.

ECO FARMS									
Field Utilization - 2012 Crop Year									
Field Number	Net Acres	Washington Crab		Westport Seafoods	Ocean Gold	Nelson Crab	Totals Pounds	Total Pounds Per Acre	Tons Per Acre
		Crab Shells	Shrimp						
K-1	2.91	36,557	122,352				158,909	54,608	27.30
K-2	2.84						-	-	-
K-3	3.36			121,200			121,200	36,071	18.04
K-4	1.59	144,009			109,100		253,109	159,188	79.59
K-5	1.63	178,718	55,705		117,000		351,423	215,597	107.80
K-6	1.76	40,707	103,352		125,000		269,059	152,874	76.44
K-7	3.32						-	-	-
K-8	1.49	85,476	103,352				188,828	126,730	63.37
K-9	3.15						-	-	-
K-10	1.81						-	-	-
K-11	2.55						-	-	-
K-12	2.09						-	-	-
K-13	1.75						-	-	-
K-14	1.32						-	-	-
K-15	1.62						-	-	-
K-16	4.53						-	-	-
K-17	1.3						-	-	-
K-18	2.08						-	-	-
K-19	1.87						-	-	-
K-20	1.84						-	-	-
K-21	2.11						-	-	-
K-22	2.31						-	-	-
K-23	1.56						-	-	-
K-24	2.08						-	-	-
K-25	1.92						-	-	-
Ranch Totals	54.79	485,467	384,761	121,200	351,100	-	1,342,528	105,379	52.69
Used Acres	12.74								

The chart below is a breakdown of the field application for the 2013 year through April 19, 2013, when Pacific County revoked the Land Application Permit.

ECO FARMS									
Field Utilization - 2013 Crop Year									
Field Number	Net Acres	Washington Crab		Westport Seafoods	Ocean Gold	Nelson Crab	Totals Pounds	Total Pounds Per Acre	Tons Per Acre
		Crab Shells	Shrimp						
K-1	2.91			193,800			193,800	66,598	33.30
K-2	2.84			181,000		66,000	247,000	86,972	43.49
K-3	3.36					36,000	36,000	10,714	5.36
K-4	1.59				190,000		190,000	119,497	59.75
K-5	1.63				240,000		240,000	147,239	73.62
K-6	1.76	30,741			210,000		240,741	136,785	68.39
K-7	3.32						-	-	-
K-8	1.49	118,334	19,408				137,742	92,444	46.22
K-9	3.15					30,000	30,000	9,524	4.76
K-10	1.81						-	-	-
K-11	2.55			55,600			55,600	21,804	10.90
K-12	2.09						-	-	-
K-13	1.75						-	-	-
K-14	1.32						-	-	-
K-15	1.62						-	-	-
K-16	4.53						-	-	-
K-17	1.3						-	-	-
K-18	2.08						-	-	-
K-19	1.87				90,000	56,000	146,000	78,075	39.04
K-20	1.84	87,412	5,670			36,000	129,082	70,153	35.08
K-21	2.11						-	-	-
K-22	2.31						-	-	-
K-23	1.56						-	-	-
K-24	2.08						-	-	-
K-25	1.92						-	-	-
Ranch Totals	54.79	236,487	25,078	430,400	730,000	224,000	1,645,965	61,348	30.67
Used Acres	26.83								

Crops Being Studied and/or Tested on the Property

For the 2013 crop year, the property will be farmed to grain and forage crops. Crops being considered and currently tests for future commercial plantings are as follows:

- Spring and fall wheat
- Oats
- Corn
- Safflower
- Peppermint
- Blueberries
- Raspberries
- Artichokes
- Asparagus
- Pumpkins
- Potatoes
- Squash
- Dry Beans
- Lettuce
- Tomatoes
- Various Herbs

The plant available N requirements vary from crop to crop, but are all greater than the amount of N applied to the fields from the crab and shrimp soil amendments applied to the property. We have hired an expert (Dellavalle Laboratories in Fresno, California). This office has performed our product fertilizer analysis testing, water testing. They also recently completed our April 2013 soil test. Dellavalle works with some of the largest farming operations in California on the most diverse farmland in the world. They specialize in working with dairy operations in compliance with dairy wastewater and nutrient management plans.

We are is designing a testing and cropping program with Dellavalle and WSU Extension Service to incorporate semi-annual soil testing with plant available N requirements after the land applications of crab and shrimp shells to develop and annual cropping pattern to balance the N generated from the crab and shrimp shell applications. Based on the 2012 soil tests, the soils throughout the Kindred Island property are severely nutrient deprived. Eco Farms goal would be to incorporate the semi-annual soil tests with cropping pattern requirements on a field by field basis.

We have broken the land application area into a number of small acreage fields, i.e. around $1.5\pm$ to $3.5\pm$ acre fields, and monitor and report the applications on a field by field basis. Please refer to the attached Eco Farm Field Maps attached hereto.

Typically, agricultural operations incorporate N to crops as a liquid fertilizer, such as UN 32. The Eco Farms operation is utilized dry material, which is disked and broken down into the soils as a slow release application, rather than liquid applications.

The Land Application site located inside the existing dike consist of approximately 60.00 net-farmable acres, and approximately 33.5 acres located outside the dike on uplands, based on calculations off aerial photographs. Therefore, based on the “Pacific County Seafood By-Product Utilization Study, prepared by Gordon Sargent, dated January 28, 2004”, utilizing only pasture grass agronomic rate of 35.90 tons per acre would yield the following annual capacity of the land lying within the dike.

60.00 acres times 35.90 tons per acre	=	4,308,000 pounds of shells annually
33.5 acres times 35.90 tons per acre	=	2,405,300 pounds of shells annually

We believe, under intensive farming to a variety of grain and feed crops, the true agronomic rate for crab and shrimp shell Land Application on the Kindred Island Property is considerably higher than what was indicated in the Sargent report referenced above, which analyzed based on pasture grass agronomic rates.

This is based on analysis of various crop fertilization requirements published by Washington State University, Oregon State University, University of Idaho and University of California, Davis crop studies. Copies to the various crop studies are included as an attachment to the letter for review.

The Land Application site includes additional acreage located outside the dike which is currently infested with noxious weeds which include gorse and scotch broom, which Pacific County mandates to be controlled and removed. These are non-wetland plants. As these noxious weeds are cleaned up, controlled, and removed, there are additional fields which can be utilized for the Land Application of crab and shrimp sells for cropping patterns and plant available N management. These fields are severely depleted of nutrients.

April 2013 Soil Tests

We conducted soil test in April of 2013 on the property. The method of conducting the samples for the test were based on the methods utilized with NRCS Office when the March of 2012 tests were conducted. A number of samples were collected in a clean bucket, mixed up, and bagged to be sent to the lab. A total of four (4) separate locations were tested by NRCS in March of 2012.

In April of 2013, a total of four (4) separate test sites were completed. Each separate test consisted of multiple probe samples taken every 100 feet in straight lines, the same method the US Army Corps of Engineers utilized on the property in February of 2013. The soil depths tested consisted of the upper 12 to 18 inches of the soil root zone. Please refer to Exhibit “A” for a copy of the 5.21.2013 Bambauer AgLand Appraisal letter to Tim Crose detailing the soil testing on the site.

A summary of the amount of N in terms of pounds per acre for each of the four test locations is as follows:

Eco Farms Soils Tests			
Nelson Stock Ranch			
by Dellavalle Lab			
April 16, 2013 Test Date			
	Nitrogen mg/kg	conversion factor	Nitrogen Pounds Per Acre
East	5	2.73	13.65
Middle	33	2.73	90.09
West	44	2.73	120.12
East - Teal Duck	28	2.73	76.44

A summary of the amount of N in terms of pounds per acre for each of the four test locations in the 2012 soil tests is as follows:

Eco Farms Soils Tests		
Nelson Stock Ranch		
by Agri-Check Lab		
March 2, 2012 Test Date		
	Nitrogen #/ac NO3	Nitrogen #/ac NH4
South of Dike (seaward)	5	10
Inside Dike	7	14
Inside Dike 2	4	14
West of Kindred Slough	3	7
West Field by St Rt 105	6	19

The following chart is a summary of the total N, as indicated in the 2013 soil tests prior to planting, along with the existing conditions in March of 2012.

Eco Farms Soils Tests					
Nelson Stock Ranch					
by Dellavalle Lab					
April 16, 2013 Test Date					
	Nitrogen mg/kg	Conversion factor	Nitrogen Pounds Per Acre	Prior Test Mar-12	Nitrogen #/ac Increase
East	5	2.73	13.65	7	6.65
Middle	33	2.73	90.09	7	83.09
West	44	2.73	120.12	4	116.12
East - Teal Duck	28	2.73	76.44	4	72.44

The chart below is a summary of the N requirements, as reported by WSU Extension Service, University of Idaho, and Oregon State University for the various crops which will be planted in 2013. According to University of Idaho, there is an additional N requirement for residue breakdown. Apply 15 pounds available N for each ton of straw incorporated into the soil up to 50 pounds per acre N per acre. 1 ton of residue is produced for each 20 bushels of wheat or 1,400 pounds of barley grain produced.

Various Crops - Nitrogen Requirements				
Crop	Plant Available Nitrogen Requirement #/acre	Residue Breakdown Nitrogen Requirement #/acre	Total Nitrogen Requirement #/acre	
Winter Wheat	180.00	50.00	230.00	
Soft White Spring Wheat	150.00	50.00	200.00	
Oats	140.00	50.00	190.00	
Pasture Grass	160.00	-	160.00	
Safflower	150.00	50.00	200.00	
Corn Silage	180.00	50.00	230.00	
Corn Grain	165.00	50.00	215.00	
Estimates based on studies conducted by:				
	<i>Oregon State University</i>			
	<i>Washington State University</i>			
	<i>University of Idaho</i>			
	<i>University of California, Davis</i>			

As indicated above, no matter what crop is grown on the Nelson Stock Ranch, including pasture grass, the N fertilization crop requirement exceeds the amount of N fertilizer applied from the crab and shrimp shell composting on the property. In addition, the N in the fields as a result of the shell spreading is a slow release fertilizer, not liquid fertilizer, as are a number of N fertilizers.

Based on information provided by Washington State University, Oregon State University, University of Idaho, as well as University of California, Davis, we have obtained the various fertilizer requirements for a number of crops being considered to be planted on the Nelson Stock Ranch property. For the 2013 crop year, we are looking at planting a combination of oats, wheat, and corn. In addition, we are working with WSU, whereas WSU will be planting test plots on the Nelson Stock Ranch in the fall of 2013 and spring of 2014 consisting of small grains and dry beans.

No matter what crop we are to plant on the property, the agronomic rate of the equivalent fertilizer already applied with crab shells will require additional fertilization, well above the Nitrogen levels which are already in the soil as a result of the shell composting operations of Eco Farms. In addition, corn requires a considerable amount of K (potassium) and P (phosphorus).

The chart located on the following page is a summary of the estimated fertilization requirements in addition to the applied Nitrogen from shell composting operations for the 2013 crop year

ECO FARMS					
Agronomic Data Summary					
Planting Year 2013					
N = Nitrogen		soil test results - April 16, 2013			
Soil Test Number	Description	mg/kg	Conversion Factor	N Pounds Per Acre	
1	East	5	2.73	13.65	
2	Middle	33	2.73	90.09	
4	West	44	2.73	120.12	
3	East	28	2.73	76.44	
Additional Nitrogen (N) Requirements over April 2013 Soil Tests					
Spring Wheat	Winter Wheat	Silage Corn	Grain Corn	Oats	Pasture Grass
<i>pounds per acre</i>					
146.35	191.35	226.35	281.35	151.35	146.35
69.91	114.91	69.91	84.91	74.91	69.91
39.88	84.88	-0.12	14.88	44.88	39.88
83.56	128.56	83.56	98.56	88.56	83.56
Sources:	University of Idaho				
	Washington State University				
	Oregon State University				

Eco Farms is committed to applying the best available science in the plant available N management of the Land Application of crab shells and shrimp shells on the Kindred Island Property. There are a number of variables which exist on calculating the agronomic rates. Eco Farms plans on consulting with WSU as well as NRCS and Dellavalle Laboratories to ensure the true agronomic rate balance on the Kindred Island property as well as third party documentation to Pacific County officials of such balance.

With the recent investment of large equipment, consisting of a 300 horsepower, Steiger Cougar II Tractor along with 26 wide tandem disc harrow, the entire land application area is now disked. This new equipment allows Eco Farms to be able to quickly disc the entire land application area in a timely manner. Field deliveries of crab and shrimp shells can be spread out over the entire land application area on a more checker board method, covering more disked fields. This equipment allows for the application in the winter months to be applied on the highest elevation fields, where the depth to the water table is the greatest. In 2011 and 2012, Eco Farms was utilized a 6 foot wide disc with small horsepower John Deere 5400 tractor.

We have timely reported to Pacific County, broken out on an annual and monthly basis, detailed records of every application from our four (4) processing clients, by type to the County of Pacific and now starting in 2013, to Department of Ecology.

We have voluntarily designed a very detailed production database, which tracks every load, date picked up from the plants, date delivered to our fields, truck and trailer utilized, driver, as well as Bill of Ladings and delivery receipts for every load delivered to the property. These records are now reported to Pacific County on a monthly basis, per request of Pacific County.

We have consulted on site with the local Farm Advisor, Pacific County Conservation District, Weed Control Board, NRCS soil agronomist, NRCS local representative, NRCS wetland biologist, Ducks Unlimited Wetland Biologist, Ducks Unlimited Regional Area Directors, DCD officials from Pacific County, EPA, and US Army Corps of Engineers, Department of Ecology, as well as US Geologic Service.

We are committed to working with all local, federal and state agencies relating to the land application of crab and shrimp shells in cooperation of the “the existing and ongoing” agricultural farming operations of the Nelson Stock Ranch under the best management farming practices. The soils located on the property lack organic matter have been severely depleted of nutrients over the years. This is magnified in the areas of the Land Application Area which are overrun with gorse, tansy and scotch broom, all invasive, non-wetland plants.

We are committed to and support the Voluntary Stewardship Program, which Pacific County signed onto. Eco Farms would like to enhance and preserve the wetlands contained in the Kindred Slough and Teal Duck slough, as well as protecting and enhancing the buffers along these sloughs.

Our goal would be to develop these sloughs into mitigation banks, and would seek advice, support and guidance from various agencies to see this vision through.

The Nelson Stock Ranch has a long history of being in existing and ongoing farming operation for decades. The continuing of Land Application of crab, shrimp and prawn shells as part of a long term, overall ranch cleanup and enhancement, removing the mandated noxious weeds, enhancing the buffers between sloughs, providing feed for wildlife and waterfowl, as well as proving a “Green” option for the local seafood processors which are substantial employers to the local economy is the best management farm practice for the property. In the past, the seafood by-products are transported via truck and train with the product wining up in landfills.

Pacific County recognized the value to this type of operation, such as Eco Farms, when Pacific County conducting the “Pacific County Seafood By-Product Utilization Study, prepared by Gordon Sargent, dated January 28, 2004”, whereas, the county was actively soliciting landowners to start the exact type of operation as Eco Farms.

We are committed to working with all the requirements from Pacific County under the Land Application Permit, as well as other state and federal agencies. We have been operating under legal permits from Pacific County, and have been in full compliance with the terms, conditions and information requests imposed under the permits issued, as requested by Pacific County. With cooperation with a number of agricultural profession consultants, including WSU Extension Service, NRCS as well as from bi-annual soil testing with Dellavalle Laboratories, we are confident a long-term cropping pattern, along with required reporting to Pacific County will ensure proper agronomic applications of crab, shrimp and prawn shells on the Kindred Island property. A detailed database exists which can track every load to every field on the property. In addition, a substantial capital investment has been made in new equipment. This large scale farming equipment mitigates any potential for odors, along with allowing to checkerboard shell applications on various fields on the property, depending upon the time of year, weather conditions, as well as water table conditions. We are no longer restricted to a small tractor with small disc.

Eco Farms will be installing monitoring wells to develop a historical database on the water table conditions on the property. Given the overall acreage on the property available for Land Application, deliveries during the winter months can vary, applying product on the higher elevation fields, where the depth to the water table is the greatest.

As part of the best management farm plan on the property, we are looking at creating and enhancing the wetlands which exist in the Kindred Slough and Teal Duck Slough corridors. My family has a long history of environmental preservation. My father, Michael Bambauer was State Chairman for Ducks Unlimited in California, as well as serving on a number of DU committees. I have served on various Ducks Unlimited committees for years. I personally have appraised a number of properties for conservation groups and/or for conservation easement purposes.

We are committed to working with best available science, rather than hypothetical estimates. We have demonstrated to Pacific County through the reporting requirements, Eco Farms commitment to detailed recordkeeping, which is readily available when needed. The unsubstantiated complaints and false accusations from local residents and tribal residents do not have any facts or evidence for a basis of their complaints. Eco Farms does not nor will not farm by the committee of local residents. We do not need permission from local residents, as well as tribal residents to farm legal crops on the property, whatever they are determined to be.

If you have any questions, or need any additional information, please do not hesitate to call.

Sincerely,

Bambauer AgLand Appraisal



Richard M. Bambauer

RB/rb

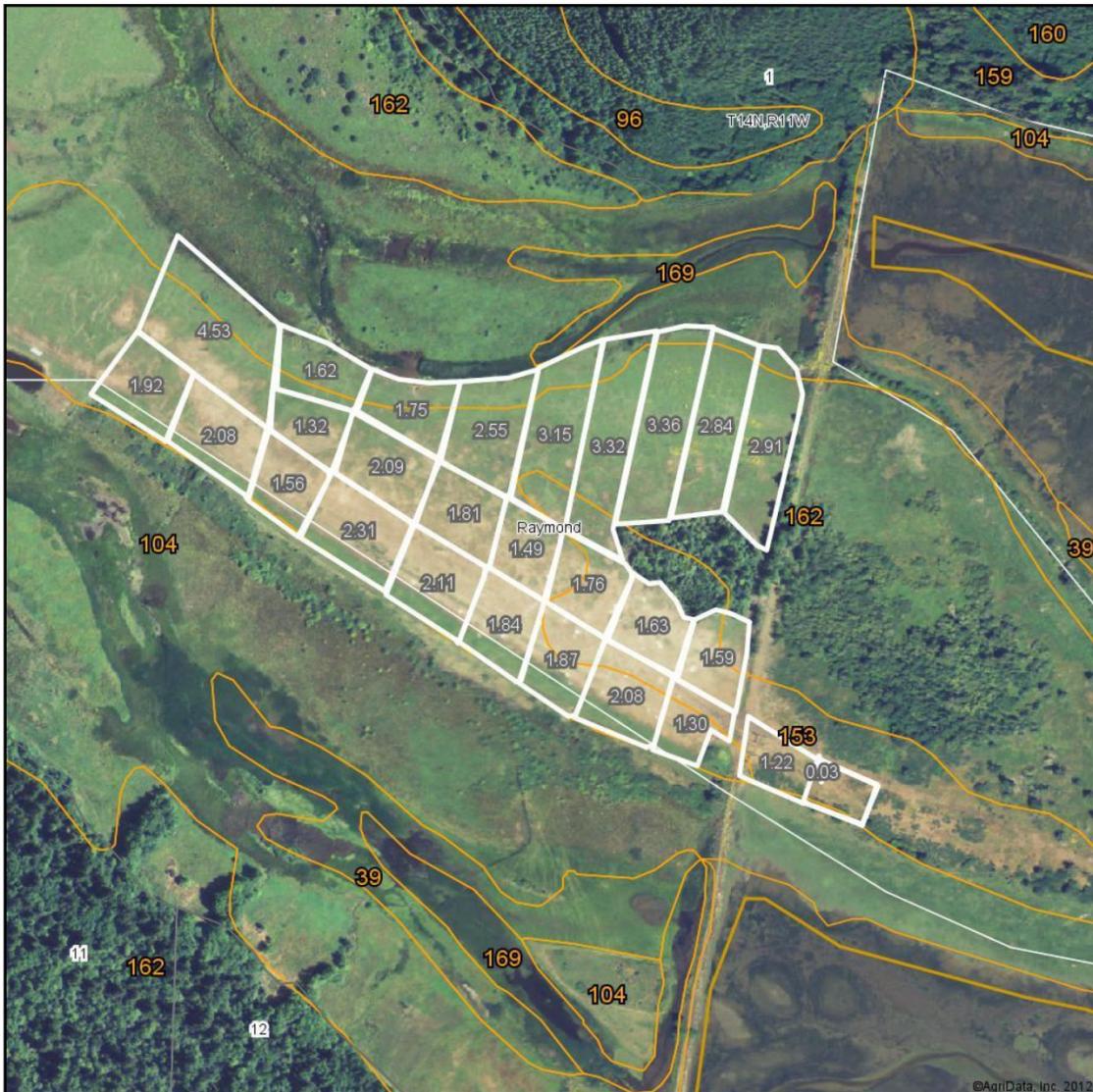
Enclosures

CC: Faith Taylor-Elrod
Terry and Vicki Larson
Craig Holley

Exhibit "A"
Land Application Field Maps



Aerial Map



map center: 46° 43' 13.64, 123° 59' 35.3
 scale: 7091

Maps provided by:

 ©AgriData, Inc. 2013
 www.AgriDataInc.com

**Pacific County
 Washington**



Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photography Field Office.

Aerial Map



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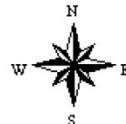
map center: 46° 43' 1.01, 123° 59' 5.93
scale: 7091

Maps provided by:



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**Pacific County
Washington**



4/23/2013

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photography Field Office.